



P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.KLXAerospace.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to KLX Aerospace Solutions.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO29272

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MPR DATE	EXP DATE
001	6	EA	MS17984C310		1448887	AVIBANK MFG.	84256		


07/24/15
Jason Lewis
Senior Director, Global Quality

** DEARS ** ** CERT Q13-P **



AV BANK
AEROSTRUCTURES DIVISION, A **PCC** COMPANY

11500 SHERMAN WAY • NORTH HOLLYWOOD, CA 91605

PHONE: (818) 392-2100 • FAX: (818) 255-2094

No ozone depleting substances used in processes.

CERTIFICATE OF CONFORMANCE

SHIPPER

DATE SHIPPED

06/29/14

PAGE	OF	DATE ENTERED	SALES ORDER NO.
1	1	10/25/13	675322-0402

B 103866
I B/E AEROSPACE, INC. (MIAMI)
L 10000 N.W. 15TH TERRACE

T MIAMI, FL
O USA 33172

S B/E AEROSPACE CONSUMABLE MGMNT
H 9835 NW 14TH ST

I MIAMI, FL
T USA 33172

CUSTOMER ORDER NO.							CONTRACT NUMBER	RATING	ORDERED BY	REC'D BY	TERRITORY NO.
0SWB90									SASHA	GLE	124
0	P/5	CENT	IMV	DD 250 REQ'D	PRES PKG REQ'D	RESALE OR TAX	VAR %	TYPE OF INSPECTION	TERMS	FREIGHT	
1	1	1	3	N	N	R			1/2% 10, NET 30	NOHO/COLLECT	
SHIPPED VIA											
FEDEX GROUND											

ITEM NO.	NO. SHIPPED	UNITS	PART NUMBER / DESCRIPTION	NO. BACKORDERED
1	289	E	FEDEX ACCT# 0331-0149-0 QAP 33.0 CLAUSES A,A.1,B,C,E,H,P,U,V APPLY *** 3 LOT MAX *** RELEASE RSG20SWB90. BLC3BA10S MS17984C310 SHIP#: 1 QTY : 289 LOT:1448887 AREA : AISLE : SEC:	1
TO OUR VALUED CUSTOMERS A RETURN MATERIAL AUTHORIZATION (RMA) NUMBER IS REQUIRED FOR ALL PRODUCTS RETURNED TO AVIBANK TO REQUEST A RMA NUMBER CONTACT YOUR AVIBANK SALES ASSOCIATE AT 818/392-2100				
THESE COMMODITIES WERE EXPORTED FROM AVIBANK MFG., INC. IN ACCORDANCE WITH EXPORT ADMINISTRATION REGULATIONS OR INTERNATIONAL TRAFFIC IN ARMS REGULATIONS. DIVERSION CONTRARY TO U.S. LAW IS PROHIBITED. COMPLIANT WITH DFARS 252.225.7014 ALT 1				
PULLED BY: SHIPPED BY: SHIP VIA: DATE SHIPPED: WAYBILL/OTHER INFO: NO. OF PKGS: WEIGHT:				

We hereby certify that all materials used in the manufacture of parts covered by this report conform to the material specifications called for by the above purchase order. We further certify that the parts are manufactured in accordance with applicable drawings or specifications current on the date on which the order was placed. Test reports covering materials in these parts, and indicating conformance with applicable specifications, are on file and subject to examination. No ozone depleting substances were used in processes. Parts are mercury free of contamination.

WI-14-AMS-004 REV:NC

BY: *Sue* AUTHORIZED QUALITY CONTROL REPRESENTATIVE

AVIBANK MFG., INC.



AVIBANK
AEROSTRUCTURES DIVISION, A *PCC* COMPANY

11500 SHERMAN WAY • NORTH HOLLYWOOD, CA 91605
PHONE: (818) 392-2100 • FAX: (818) 255-2094

CERTIFIED TEST REPORT

1 of 1

CUSTOMER: B/E AEROSPACE, INC. (MIAMI)

SHOP ORDER NO./WORK ORDER NO.: 1448887

CUSTOMER P/N: MS17984C310

CUSTOMER P.O.: 0SWB90

QTY. SHIPPED: 289

AVIBANK P/N: BLC3BA10S RV.N

PART NAME: S/A STANDARD

PROCUREMENT SPEC: NAS1332

BODY WO.: SB30182 **QTY. MFG'D:** 289

PROCESS	PROCESSOR	TYPE/CLASS	SPECIFICATION
ANODIZE	ANODIZING INDUSTRIES, LOS ANGELES, CA	II/2	MIL-A-8625 'F'
ANODIZE	K & L ANODIZING CORP., BURBANK, CA	II/2	MIL-A-8625 'F'
HEAT TREAT	AVIBANK MFG., INC., NO. HOLLYWOOD, CA.	CH900	AMS2759 'E'
HEAT TREAT	AVIBANK MFG., INC., NO. HOLLYWOOD, CA.	HRC 40 MIN	AMS2759 'E'
PASSIVATE	AVIBANK MFG., INC., NO. HOLLYWOOD, CA.	2	AMS2700 'E'

NO.	* BOLT TENSILE (LBS.)	TORQUE (IN-LBS.)	* RETAINING DEVICE TENSILE (LBS.)	() ** SHEAR (LBS.)
1.	N/A	N/A	217 NF	5,993
2.	N/A	N/A	220 NF	6,043
3.	N/A	N/A	217 NF	6,231
4.				
5.				
REQT.	N/A	MIN.	N/A MIN.	200 MIN. 5,150 MIN.

* BF = BALL HOLE FAILED. * TF = THREADS FAILED. * NF = NO FAILURE. ** (S) = SINGLE SHEAR. ** (D) = DOUBLE SHEAR.

OTHERS: THESE PARTS WERE LAB TESTED PER 'NAS' RQMTS AND FOUND ACCEPTABLE.
SALES ORDER NO. 675322-0402.

AVIBANK MFG., INC. CERTIFIES THAT THE PARTS LISTED ABOVE WERE MANUFACTURED IN COMPLIANCE WITH YOUR PURCHASE ORDER. ALL TEST AND INSPECTION REPORTS ARE ON FILE AT AVIBANK FOR VERIFICATION.

AUTHORIZED SIGNATURE: Terrence Waits **Q.C. CLERK**
WI-03-CTR-005 rev NC



DATE: 06/29/14

Order No: 3748031
Time 07:06:05



FRY STEEL COMPANY
Registered ISO 9001
13325 MOLETTE ST.
SANTA FE SPRINGS, CA 90670
(562) 802-2721

A08040
Cust. NO.: 760385
P.O. NO.:

CERTIFICATE OF COMPLIANCE

AVIBANK MFG INC
ATTN: ACCTS PAYABLE
P O BOX 9909
NORTH HOLLYWOOD CA 91609-1909

AVIBANK MFG
11500 SHERMAN WAY
***RECEIVING CLOSED 11:30-12**
NORTH HOLLYWOOD CA 91605-5827

04/23/14

QTY	-DESCRIPTION-	-ITEM CODE-	-HEAT NUMBER-
	✓ CG 17CR 4NI PPT HT SOL TR PH AMS 5643 SILVER/RED		
250	BARS .130"RD 12'RL	9070	E131099
440	✓ BARS .1925"RD 12'RL	9120	E130790 ✓
75	BARS .505"RD 12'RL	9380	G20854
75	BARS .630"RD 12'RL	9450	571176
25	BARS .755"RD 12'RL	9510	571616

CERT REVIEW

MAIN LOT #
1448887
COMPONENT LOT #
SB30182
NAME
Body
CLERK: GV NC DS

NOTICE

A COPY OF THE ORIGINAL MILL CERTIFICATION IS ATTACHED*

CHEMICALS & PHYSICALS ARE REPORTED THAT WILL MEET THE SPECIFICATIONS SHOWN ON THE CERTIFICATE.
EXCEPTIONS TO SPECIFICATIONS SHOULD BE SHOWN ON THE CERTIFICATION.

AUTOMATIC EXCEPTIONS TO THE SPECS LISTED ARE: LINE MARKING AND INSPECTION(I.E. MAG., SONIC,ETC.)

WE SUGGEST CONSULTING AN EXPERT ABOUT RELATED INSPECTION, PRIOR TO ALTERING THE MATERIAL FROM THE AS SHIPPED/RECEIVED
CONDITION. "DEFECT FREE" MATERIAL CAN NOT BE GUARANTEED WITHOUT PRIOR INSPECTION APPROPRIATE TO APPLICATION.

NO WELD REPAIR HAS BEEN PERFORMED AND THIS MATERIAL IS FREE FROM MERCURY AND RADIUM
CONTAMINATION AT TIME OF SHIPMENT

The wilful recording of false, fictitious or fraudulent statements on this document may result as a felony under federal statutes.
*WHEN APPLICABLE

- TO THE BEST OF OUR KNOWLEDGE MATERIAL IS CONFLICT MINERAL FREE -



Q. C. Review
Sig. Ch. Sandoval
Date 4/29/14

Ch. Sandoval
CHP SANDOVAL - Q.C. MANAGER

Lot# 1436398

FRY STEEL CO. CERTIFIES THAT THIS IS
A TRUE COPY OF THE ORIGINAL MILL TEST
REPORT NOW ON FILE
RECEIVED AND INSPECTED

TRI STAR METALS, LLC
375 VILLAGE DR.
CAROL STREAM, IL 60188
An ISO 9001:2008 Registered Company

FEB 10 2014

Chip Sandoval

CHIP SANDOVAL - Q.C. MANAGER

E130790
CERTIFICATE DATE: 02/07/14 CUSTOMER: FRY STEEL COMPANY
ORDER#: 204271 CUSTOMER PO#: 47722-1
MATERIAL: 17-4PH ✓ DESCRIPTION: .1925" RD SS X 12' ✓
HEAT NUMBER: E130790 QTY. SHIPPED: 2,170 LBS
CONDITION: A - Solution Annealed, A.Q., Centerless Ground

CHEMICAL COMPOSITION

C ✓	Mn ✓	Si ✓	S ✓	P ✓	Ni ✓	Cr ✓	Mo ✓	Other Elements
.0140	.7000	.4000	.0230	.0280	4.660	15.23	.1700	✓Cu=.244 Co=.0670 N=.0360 Ti=.0010 ✓Nb=.2540 Al=.0020 B=.0011 V=.0600 W=.0200 As=.0010 Ca=.0013 Pb=.0002 Sn=.0090

MECHANICAL VALUES

TENSILE (KSI)	YIELD (KSI)	ELONGATION (%)	REDUCTION OF AREA (%)	HARDNESS
135	125	11	66	277 HB

✓ AFTER HT CAPABILITIES H900 900 F 1 HR AIR COOL

TENSILE (KSI)	YIELD (KSI)	ELONGATION (%)	REDUCTION OF AREA (%)	HARDNESS
202	198	12	53	411 HB

✓ ADDITIONAL REMARKS:

This material meets the specifications for: SOLUTION ANNEALED AT 1800F FOR 1.5 HRS; AMS 5843R, AMS 2303E; ASTM A484-10; Capable of ASTM A584-04 TYPE 630, ASME A584-04 TYPE 630; MBO-160-003 EXC HARDNESS & ULTRASONIC; DFARS 252.225.7014 & 225.7002-3(b) (1) COMPLIANT; Delta Ferrite=.4%; Micro & Macro Structures OK per AMS 5843

MATERIAL IS FREE FROM MERCURY CONTAMINATION. EN10204 3.1.B
MELT ORIGIN: ENGLAND

MATERIAL IS MANUFACTURED IN THE UNITED STATES OF AMERICA
I hereby certify that this data is correct as contained in the records of this company.

QUALITY CONTROL REPRESENTATIVE: *[Signature]*
QSD-077 REV. ORG. 4/17/2013

James P. Elliott-Quality Process Manager



Q. C. Review

Monica
Date: 4/30/14

Lot# 1436398



Linear Motion. Optimized.

SHIP TO: AVIBANK MFG INC
11500 SHERMAN WAY
NORTH HOLLYWOOD CA 91605
United States

CERTIFICATE OF CONFORMANCE		
DELIVERY NAME: 2980080	DATE PRINTED: 07-MAY-2014	PAGE: 1 of 1
<u>SHIP FROM:</u> ABEK LLC 492 Birch Street Bristol CT 06010 United States		
<u>Tel:</u> (860) 314-3921 <u>Fax:</u> (860) 314-3942		
<u>BILL TO:</u> AVIBANK MFG INC 11500 SHERMAN WAY NORTH HOLLYWOOD CA 91605 United States		

PICK-UP DATE: 06-MAY-2014	SHIP METHOD: UPS-Air-Ref Next Day		FREIGHT TERMS: COLLECT - FROM ORIGIN		FSCM:			
DELIVERY TERMS EXWORKS FACTORY	TAX NAME: EXEMPT	CUSTOMER TAX NUMBER:		WAYBILL: 1Z0176470161400507				
SHIPPING INSTRUCTIONS: ACCT# 60X10X			TAG NUMBER/REF:		PO REF#:			
ITEM NUMBER	REFERENCE ITEM	ITEM DESCRIPTION	CUSTOMER PO NO.	ORDER NO.	LIN ORDER NUMBER	UOM	QTY ORDERED	QTY SHIPPED
SS0062501CRDF	SS0062501CRDF	1/16 440C GRADE 100 OK (R/C - DFAR) - SS0062501CRDF	760833	1845582	1.1	MPC	60.0	60.0
COUNTRY OF ORIGIN: ****EAR99****	United States							
Lot Number L0014156	Quantity 60.0	Heat Number 565452		Hardness Test HRC			Hardness 60-61	
Material meets DFAR 252.225-7009:7014. Material certs meet ASTM F-2215. Material meets AMS QQ-S 763 and AMS 5630 Heat Treat meets AMS 2759/5 Passivation meets AMS 2700 Country of Origin (Ball manufactured): USA Country of Melt (Material manufactured): USA								
These commodities, technology or software, if being exported from the United States must be exported in accordance with the Export Administration Regulations. Diversion contrary to U.S. Law is prohibited.								
CERT REVIEW								
MAIN LOT # 1448887								
COMPONENT LOT # 1403495								
NAME BALL								
CLERK: GV NC DS								
		NUMBER OF PACKAGES 1	GROSS WEIGHT 3.0 LB		VOLUME			

THE UNDERSIGNED, INDIVIDUALLY, AND AS THE AUTHORIZED REPRESENTATIVE OF THOMSON INDUSTRIES INC., WARRANTS AND REPRESENTS THAT; ALL THE INFORMATION SUPPLIED ABOVE IS TRUE AND ACCURATE; THE MATERIAL COVERED BY THIS CERTIFICATION CONFORMS TO ALL CONTRACT REQUIREMENTS (INCLUDING BUT NOT LIMITED TO THE DRAWING AND SPECIFICATIONS); THE INSPECTION AND THE ANALYSIS HEREIN ARE TRUE AND ACCURATE.



QUALITY ASSURANCE MANAGER AUTHORIZED SIGNATURE

TI JQQOHIBVUI P SJUZIGPSIDDSI.I/1861551WNIX SELIQ/P/SQ76511

CERTIFICATE OF TESTS
CERT SERIAL# 000819782

ABNAHMEPRUEFZEUGNIS

CERTIFICAT DE CONTROLE

CARPENTER

Carpenter Technology Corporation
101 West Bern Street, Reading, Pa. 19601
Tel: (610) 208-2000 (800) 338-4592

04/09/12

- THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47.
- THE VALUES AND OTHER TECHNICAL DATA REPRESENT THE RESULTS OF ANALYSES AND TESTS MADE ON SAMPLES COLLECTED FROM THE TOTAL LOT. ORIGINAL DATA RECORDS CAN BE TRACED BY REFERENCE TO THE CARPENTER ORDER NUMBER.
- MATERIAL IS MANUFACTURED FREE FROM MERCURY, RADIUM, ALPHA AND GAMMA SOURCE CONTAMINATION.
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SELLER / VERKAUFTER / VENDEUR PAGE 1 OF 3

ALN

CUSTOMER ORDER NO./BESTELL-NR./N° DE COMMANDE	CARPENTER NO./WERKS-NR. N° DE REFERENCE INTERNE	DATE/DATUM/DATE	WEIGHT/GEWICHT/POIDS
218140C	W45450	04/09/12	2400.000

HEAT NUMBER / SCHMELZE NR. / N° DE COULEE: 565452

PRODUCT DESCRIPTION: CONSUMET TYPE 440C BEARING QUAL HOT DRAWN SEAM FREE
STRESS RELIEVED
PART NUMBER: 075304440VM

SPECIFICATION: AMS 5618 REV G (05/ /06)
AMS 5880 REV C (05/ /06)
AMS 5630 REV J (10/ /07)
AMS-QQ-S-763B (08/ /06)
ASTM-A756-09 EXCEPT: TENSILE
ASTM-A276-10

SIZE 0.075000 IN. (1.91 MM) RD WIRE INGOT 2

PRIMARY HEAT CHEMISTRY (WT%): (TEST METHOD IS SHOWN IN PARENTHESIS)

C (COM)	MN (XRF)	SI (XRF)	P (XRF)	S (COM)	CR (XRF)
1.02	0.43	0.72	0.015	LT .001	17.13
NI (XRF)	MO (XRF)	CU (XRF)			
0.15	0.44	0.08			

MACROETCH TESTED AND APPROVED PER ASTM E381 WITH RATINGS OF S1, R1 & C1 WHICH
MEETS THE MAXIMUM REQUIREMENTS OF S2, R2 AND C2.

MACROETCH: TESTED TO ASTM-A-604; MAXIMUM VALUES ARE 1A, 2A, 3A, 4A

TENSILE AS SHIPPED, KSI (MPA) 111.0 (765) 118.0 (814)

HARDNESS, HB 228.5 (CONVERTED FROM TENSILE STRENGTH)

MAX QUENCH HARDNESS, HRC - 63 - 1925 F (1052 C) 30 MN OIL TREAT
MAX QUENCH HARDNESS, HRC - 58 - 1875 F (1024 C) 30 MN AIR COOL

FRACTURE GRAIN SIZE: 8

FRACTURE GRAIN SIZE: 8

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APR 11 2012

DFARS
OK

Craig T. Smith

CONTINUED ON NEXT PAGE

OF TESTS
ICAL# 000819782

CARPENTER

Carpenter Technology Corporation
101 West Bern Street, Reading, Pa. 19601
Tel: (610) 202-2000 (800) 338-4592

00/00/12

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SELLER/VERKAUFER/VENDEUR PAGE 2 OF 3

ALN			
CUSTOMER ORDER NO./BESTELL-NR./N° DE COMMANDE	CARPENTER NO./WERKS-NR./N° DE REFERENCE INTERNE	DATE/DATUM/DATE	WEIGHT/GEWICHT/Poids
218140C	W45450	04/09/12	2400.000

HEAT NUMBER / SCHMELZE-NR. / N° DE COULEE: 565452
CARBIDE SEGREGATION - FREE FROM EXCESSIVE SEGREGATION (VILELLAS)

DECARB - NONE (VILELLAS)

MICROSTRUCTURE - SPHEROIDIZED ANNEALED (VILELLAS)

INCLUSION RATING - ASTM E45 METHOD D								
ID	A		B		C		D	
	THIN	HEAVY	THIN	HEAVY	THIN	HEAVY	THIN	HEAVY
2A	1.0	00	00	00	00	00	000	000
	1.5	00	00	00	00	00	000	000
	2.0	00	00	00	00	00	000	000
	2.5	00	00	00	00	00	000	000
2X	1.0	00	00	00	00	00	000	000
	1.5	00	00	00	00	00	000	000
	2.0	00	00	00	00	00	000	000
	2.5	00	00	00	00	00	000	000
2A	1.0	00	00	00	00	00	000	000
	1.5	00	00	00	00	00	000	000
	2.0	00	00	00	00	00	000	000
	2.5	00	00	00	00	00	000	000
2X	1.0	00	00	00	00	00	000	000
	1.5	00	00	00	00	00	000	000
	2.0	00	00	00	00	00	000	000
	2.5	00	00	00	00	00	000	000

CHEMISTRY CHECK (WT%) AT SIZE 5.000 IN. X 5.000 IN.

2A (TOP) 1.02
2X (BOTTOM) 1.03

C
MATERIAL PRODUCED ON THIS ORDER WAS MELTED AND MANUFACTURED IN THE U.S.A.
MATERIAL HAS BEEN MELTED IN USA OR QUALIFYING COUNTRY TO DFARS REQUIRE-
MENTS 252.225-7014 WITH ALTERNATE 1 FOR QUALIFYING COUNTRY 225.872.1,
SUPERSEDED BY DFARS REQUIREMENTS DFARS 252.225-7008 AND 252.225-7009.

RECEIVED

APR 11 2012



Ray T. Smith

DFARS

OK

5-14

CONTINUED ON NEXT PAGE

OF TESTS
AL# 000819782

ABNAHMEPRUEFZEUGNIS

CERTIFICAT DE CONTROLE

CARPENTER

Carpenter Technology Corporation
101 West Bern Street, Reading, Pa. 19601
Tel: (610) 208-2000 (800) 338-4592

04/09/12

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SELLER/VERKAUFER/VENDEUR PAGE 3 OF 3

ALN

CUSTOMER ORDER NO./BESTELL-NR./N° DE COMMANDE	CARPENTER NO./WERKS-NR./N° DE REFERENCE INTERNE	DATE/DATUM/DATE	WEIGHT/GEWICHT/Poids
218140C	W45450	04/09/12	2400.00

HEAT NUMBER/SCHMELZE-NR./N° DE COULEE: 565452
THIS ORDER WAS MANUFACTURED IN ACCORDANCE WITH CARPENTER SPECIALTY ALLOYS
OPERATIONS QUALITY PROGRAM MANUAL, REVISION 30 DATED 09/28/11.

CARPENTER'S QUALITY MANAGEMENT SYSTEM WAS REGISTERED AS OF NOVEMBER 24, 2010 TO
THE REQUIREMENTS OF ISO 9001:2008 APPROVAL CERTIFICATE 10-1385R BY PERFORMANCE
REVIEW INSTITUT. CERTIFICATE OF TEST IS PREPARED IN ACCORDANCE WITH PARAGRAPH
3.1 OF EN 10204 (DIN 50049). WE HEREBY CERTIFY THAT THE ABOVE TEST DATA ARE
IN ACCORDANCE WITH THE PURCHASE ORDER AND SPECIFICATION REQUIREMENTS,
AS DOCUMENTED IN THIS CERTIFICATE OF TESTS.

TEST METHODS ARE PER THE ASTM STANDARDS ON FILE AND IN EFFECT AT TIME OF ORDER
ACCEPTANCE, STANDARD PRACTICES, OR AS AGREED UPON BETWEEN CARPENTER & CUSTOMER.

TANIA M. GRIFFITH
ADMINISTRATOR - QUALITY
CARPENTER TECHNOLOGY CORPORATION

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APR 11 2012



Craig F. Smith
CK



Tania M. Griffith

Job # 2929



FAST LANE PRECISION

Certificate of Conformance

Customer: Avibank MFG

Part Number: 16-3C

Rev: AC

Description: Shoulder Ring

Heat Number: H1A1

Order Quantity: 10330

Material Cert: C1769

Customer Purchase Order: 753786

Remarks

Q. C. Review
Sig. *ND*
Date *4/4/14*

LOT#1428640

Parts were manufactured from documented work instructions, using approved suppliers and processors. All components have been inspected and approved with inspection and certification on file at our facility.

Dan
Quality Assurance Representative

13 Mar 14
Date

CERT REVIEW

MAIN LOT #
1448887

COMPONENT LOT #
KB40103

NAME
SHOULDER RING
CLERK: GV NC DS

NAS NORTH AMERICAN
STAINLESS

METALLURGICAL TEST REPORT

6870 Highway 42 East
Ghent, KY 41045-9615
(502) 347-6000

C176A

Certificate: 833261 02 Mail To:
GEMET STAINLESS STEEL, INC.
2001 ELLIOTT AVENUE SW
SEATTLE, WASHINGTON 98101

ship to:
STURGE STAINLESS STEEL, LLC
5848 U.S. 30 A
SUMMERTIME
WI 77471

Date: 5/05/2013 Page: 1 of 1
Steel: 303
Finish: Cold Draw
Dia/inch: .4063 in
Leg Length:
Length: 144.00 in
Corrosion:

Customer: 0370 00

EN Orders: LP 604

TIME OF DAY: 105248

Item Code

PRODUCT DESCRIPTION

Round Bar, Annealed, Cold Draw
ASTM A563/12 EN 10204 3.1, ASTM A484/12
AMS 36400 STEP 2, Q02-754B CONSTRUCTION A
SOLVENT ANNEAL TEST 1300°F X 1H

REMARKS: COMPLIES W/REQUIREMENTS OF DEAR 252.223-7014A-1 EXC DIRECTIVE 2011/65/EU. ROHS, EN60068-2-27, NO WELD REPAIR, REFLAMED AND MPG THE TYPE WHICH MONTY AND LOW MELTING ALLOY CONFECTIONATION

29738376 2500

Chemical Analysis per ASTM A751/08

MECHANICAL PROPERTIES

1	4	HB	AVB	UTB	RA	King
o	i	No.	XBY	XBY	%	% 2"
n	r					
HF39576	X	213.0	81.41	105.43	34.57	32.05

Q. C. Review
Sig. Norma
Date 4/4/14
Lot # 1428640

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

M.D. 12/26/13

Technical
Dept. Mex. —

ERIC WEBB



1901 N. Narragansett Ave. • Chicago, Illinois 60639

773/804.0404 • Fax 773/804.0408

www.industeel.com

An ISO 9001 Certified Company

11/05/13

ISW Order/Invoice Number: 171013-00

SOLD TO: A9990
AVIBANK MFG. CO.

SHIP TO: A9991
AVIBANK MFG. CO.
11500 SHERMAN WAY

P.O. BOX 9909
NO HOLLYWOOD CA 91609

NO. HOLLYWOOD, CA 91605

CUSTOMER PO: 751295

085017BT

.0850"17-7 PH STAINLESS COND C CNT CLS

WEIGHT: 500

HEAT NUMBER: E121590

CHEMISTRIES

C	Mn	P	S	Si	Cr	Ni	Al
.082 ✓	.880 ✓	.029 ✓	.001 ✓	.269 ✓	16.630 ✓	7.560 ✓	.926 ✓
Mo	Cu						
.310 ✓	.255 ✓						

CERT REVIEW

MAIN LOT #
1448887

COMPONENT LOT #
1403259

NAME
RIVG

PHYSICAL PROPERTIES

TENSILE: 253000C 307000CH

TORSIONS: OK

ROCKWELL #1:

BENDS: OK

ROCKWELL #2:

SALT SPRAY HOURS: CLERK: GV NC DS

YIELD STRENGTH: 000000C/000000CH

COATING WEIGHT:

ELONGATION:

GRAIN SIZE:

REDUCTION OF AREA:

***** MERCURY FREE *****

*** SPECIFICATIONS ***

TARIFF: 7223.00

ASTM A313-10

NAFTA: B

AMS 5678-F ✓

MELT: GB UNITED KINGDOM ✓

ORIG: GB UNITED KINGDOM ✓

MILL: INDUSTRIAL ALLOYS

DFAR: Y

ROHS: Y


Rey Domingo, Quality Control Manager

AVB
58
INSP
1389733

NOV 8 '13

The values and specifications herein are passed through from the manufacturer directly to the customer.

Please see reverse side or www.industeel.com for all Terms and Conditions of Sale.

Material Properties Sheet 70403-MPS Version 1 Approved by BF 11/20/12

PIERCE SPAFFORD

A Titanium Industries Company

7373 Hunt Ave., Garden Grove, CA 92841
 Phone: 714-895-7756 Fax: 714-891-5308

CERTIFICATE OF COMPLIANCE

SOLD TO:

SPS - AVIBANK

CUSTOMER P.O. #:	ORDER #:	DATE SHIPPED:
755021	375095	1/20/2014
ALLOY: 17-4 ANN	TEMPER/COND.: SEE MTR	PACKING LIST#: 375095
HEAT NO: E111063	PRODUCER: INDUSTRIAL ALLOYS-ENGLAND	CUSTOMER REFERENCE:

SPECIFICATION:

AMS 5643R

ITEM DESCRIPTION:

.0937" RD.

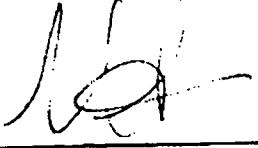
500 PC(S)

138 LB(S)

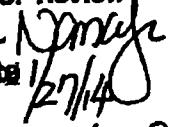
SEE ATTACHED TEST REPORT

WE HEREBY CERTIFY THAT, TO THE BEST OF OUR KNOWLEDGE, ITEM(S) SHIPPED ON THIS ORDER HAVE BEEN INSPECTED AND TESTED AND FOUND IN CONFORMANCE WITH THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. PRODUCT CONFORMS TO THE REQUIREMENTS OF THE PURCHASE ORDER.

CERT REVIEW


 Moises Aguilar
 Authorized Certification Clerk

MAIN LOT #
 1448887
 COMPONENT LOT #
 SB30149
 NAME
 SPINDLE
 CLERK: GV NC DS

AVB
 1/27/14
 Q. C. Review
 Sig: 
 Date: 1/27/14
 LOT #1410881

Industrial Alloys

A Division of Tree Island Wire USA, Inc.
3880 W. Valley Blvd, Pomona, CA 91789
Phone (800) 255-8974 Fax (909) 595-0439

Mill Certificate

Order No : 302442
Sold To : Pierce-Spafford Metals Co 7373 Hunt Avenue Garden Grove CA
Cust Po# : 68191
Product : 936020 -IA CGB .0937 X 12' 17-4 500# W Box C 175 Max. ✓

Quantity/Heat : 485 LB

MECHANICAL PROPERTIES: ✓

Tag#	Dia "	T ksi	HRC
15595779	.0940	139.000	29

Q. C. Review
Sig: *John*
Date: *1/27/14*

LOT # 1410881

CAPABILITIES: ✓

	CTksi	CYksi	C%E4D	C%RA	CHRC
Average Values	214.800	214.700	10.000	54.000	45

CHEMICAL PROPERTIES: Mill / Country: SHEFFIELD, ENGLAND

HEAT#	%C	%Mn	%P	%S	%Si	%Cu	%Ni	%Cr
E111063	✓ 0.016	✓ 0.73	✓ 0.0240	✓ 0.0230	✓ 0.433	3.354	4.69000	15.29
	✓ %Mo	✓ %Cb	% Co	%N	%Ta	%CbTa	% Pb	% Cd
	0.26	0.2830	0.089	0.03200	0.0000	0.2830	0.0002	0.0000

SPECIFICATIONS: ✓ ✓

ASTM A484-11, Melt Certs Required, Free of Mercury, AMS 5643R, Cap @ 900F-1 HR-A/C
AMS 2303F, Condition SHT, Cap of ASME SA 564 T630, Solution Anneal @ 1900F
Macro / Micro Good, Capable of MBO 160-003 D, Cap of ASTM A564-10 T630

Industrial Alloys certifies that the materials described herein are represented to the Buyer(Customer) as stated to Industrial Alloys by the producing mill and attested to by said mills Test Report with respect to chemical analysis. Other properties stated herein are certified to be representative of tests performed by Industrial Alloys with the exception of those performed by the producing mill in which case they are a restatement of the Test Report as supplied to us by the producing mill. We further certify that all of the manufacturing processes applied to the wire and wire products described above, were performed in the United States of America.

ATI - Los Angeles

INDUSTRIAL ALLOYS

OCT 27 2011

John
Quality Control

Date : OCT 24 2011

Authorized Official :

ADMIR ROMERO
ADMIR ROMERO
QUALITY ASSURANCE

Industrial Alloys

3880 W. Valley Blvd, Walnut, CA 91788
Phone (800) 255-8974 Fax (909) 595-0439

Order No : 302442

Sold To : Pierce-Spafford Metals Co 7373 Hunt Avenue Garden Grove CA

Cust Po# : 68191

Product : 936020 -IA CGB .0937 X 12' 17-4 500# W Box C 175 Max.

Quantity/Heat : 495 LB

177

Upper Limit = 175

164

Item : 936020

Heat : E111063

Average : 139.000

Range : 0

Std Dev : 0

150

137

124

0.0956

Tensile (Ksi)

Q. C. Review
Sig. *Wmref*
Date *2/14*

LOT# 1410881

0.0947

Upper Limit = 0.0947

Diameter (Inch)

Item : 936020

Heat : E111063

Average : .094

Range : 0

Std Dev : 0.0000

0.0937

0.0927

Lower Limit = 0.0927

0.0918

Outokumpu Stainless Ltd.
ASR Rod Mill
Blawden Road
Sheffield, S9 3XG
Telephone: +44 (0) 114 242 1124
Fax: +44 (0) 114 242 2152

OUTO
KUMPU

Prof-Nr
Test certificate No
No du certificat

70658

In Accordance With EN 10204.3.1

Rechnungs-Nr Invoice/Cons No No de facture	55408	Bestell-Nr Customer Order No No de commande client	RB-682	NORM AISI 630,(17-4PH), 17-4 ISPR Rev 3, 02/15/01.	SPECIFICATION NORM
ADDRESS INDUSTRIAL ALLOYS INC 3886 WEST VALLEY Blvd, Walnut CALIFORNIA U. S. A. CA 91769				Werk-Nr Plant Order No No de commande usine Lieferbedingungen SPP/SCPP Delivery Condition SPP/SCPP Delivery Condition SPP/SCPP Delivery Condition	AV193569/01 SOFTENED AND DESCALED 5.60 mm Round 5 rod coils for 3.2762 E111063

Mech und phys Eigenschaften		Mechanical and Physical Properties			Caractéristiques mécanique	
0.2%PS kPSI	1.0%PS kPSI	UTS kPSI	RA%	Korngröße Grain Size Taille de grain	Dehnung % Elongation % Allongement %	Werk Hardness Dureté Hb
82.634	120.091	128.068	68.8	0.0 0.0	4.2	0.00
Decarb	Max	Batch Average	Batch Percentage	Cleanness		
				Intercrystalline Corrosion Test		

Additional Information

•Free from known mercury and nuclear contamination
Solution treated at 1800°F to 25°F - WO

Material from from vendor.

Confidence with AN/ASR-13B, AN/ASR-21/22E & AN/ASR-21/24

Conforms with AMS 5545R, AMS 2203E & ASTM A564-04
Material melted and rolled in Sheffield, England by Outokumpu Stainless Ltd.
(earlier A511-920 when melted in Germany)

272 J. M. Gossard et al.

OCT 23 2001

COSTS OF THE CONFEDERACY

Technical Resources

卷之三

Detention Date 02/09/2011

This order was manufactured according to a Quality System registered to ISO 9001:2000 and approved by TÜV Nord. Certificate-Registration No. 44 103 116486

and the other two were in the same condition. The first was a small, dark, irregularly shaped mass, about the size of a small pea, and the second was a larger, more rounded, and somewhat irregular mass, about the size of a small cherry. The third was a small, dark, irregularly shaped mass, about the size of a small pea, and the fourth was a larger, more rounded, and somewhat irregular mass, about the size of a small cherry.

the *Journal of the American Medical Association*, Vol. 100, No. 1, January 19, 1933, pp. 101-102, and the *Journal of the American Medical Association*, Vol. 100, No. 2, January 26, 1933, pp. 141-142.

K & L Anodizing Corporation
Certification

Order No.: 320247

Date: 05/08/2014

Entry Date: 04/30/2014

Page: 1 of 1

To:

Avibank Mfg. Inc.
 11500 Sherman Way
 P.o. Box 9909
 North Hollywood CA 91609-1909

311363

Purchase Order No.: 760693

Packing List No.:

Material: 2024-T4

We are pleased to provide you with the following Certification. The item(s) described were finished and accepted in accordance with the stated specification
 Nadcap Accredited

Quantity	Part Number / Part Name / Part Description	Pounds
3,950	3-3AB Rev. J Button	

Mil-A-8625 Rev.F Amend. 1 KLC 001 / KLC 0007
 Anodize per Mil-A-8625 Rev. F Am. 1 Type II Class 2 Blue.
 Mercury Contamination Free

Insp.	Type	Scale	Minimum	Maximum	Number	Other
Customer Requirements:						
	Visual				Sample or 100%	

LSS# 200

Notice: All finishing completed by K & L Anodizing will carry a liability not to exceed the amount of the finishing charges for the work done on any material. The only exception shall be by written agreement signed by both parties.


 Q. C. Review
 Sig: *Naomie*
 Date: *5/8/14*

CERT REVIEW	
MAIN LOT #	<i>1448887</i> LOT# 1439731
COMPONENT LOT #	<i>KB30687</i>
NAME	<i>BUTTON</i>
CLERK: GV	NC DS

Alva Mauleon 

Alva Mauleon
 Lab Tech
 K & L Anodizing Corp.

Nadcap AS7003 #4908143853 10/31/2015
 Nadcap AC7108 #4908153454 10/31/2014



FRY STEEL COMPANY
Registered ISO 9001
13325 MOLETTE ST.
SANTA FE SPRINGS, CA 90670
(562) 802-2721

Order No: 3702738
16:17:08
Time

A08040
Cust. NO.: 755061
P.O. NO.:

CERTIFICATE OF COMPLIANCE

AVIBANK MFG INC
ATTN: ACCTS PAYABLE
P O BOX 9909
NORTH HOLLYWOOD CA 91609-1909

AVIBANK MFG
11500 SHERMAN WAY
***RECEIVING CLOSED 11:30-12**
NORTH HOLLYWOOD CA 91605-5827

01/17/14

QTY	-DESCRIPTION-	-ITEM CODE-	-HEAT NUMBER-
	✓ CF 2024 AL T4 QQA 225/6 RED		
342	✓ BARS 5/16"RD 12'RL	84030	13M215 ✓
1	BAR 7/16"RD 12'RL	84040	13M215
1	PC 3/8 X 1-1/4"FL CUT 84"LG CUT	86570	10112303-5
	CF 2024 AL T351 QQA 225/6 RED		
1	PC 1-1/8"RD CUT 60"LG CUT	84090	152938
5	BARS 1-3/16"RD 12'RL	84095	13M215
	EXT 2024 AL T3511 QQA 200/3 RED/WHITE STRIPE		
3	BARS 5/8"RD 12'RL CONTINUED...	85810	ZWB120934
CERT REVIEW			
		MAIN LOT #	<u>1448887</u>
		COMPONENT LOT #	<u>KB30687</u>
		NAME	<u>Button</u>
		CLERK: GV NC DS	<u> </u>

NOTICE

A COPY OF THE ORIGINAL MILL CERTIFICATION IS ATTACHED*

CHEMICALS & PHYSICALS ARE REPORTED THAT WILL MEET THE SPECIFICATIONS SHOWN ON THE CERTIFICATE.
EXCEPTIONS TO SPECIFICATIONS SHOULD BE SHOWN ON THE CERTIFICATION.

AUTOMATIC EXCEPTIONS TO THE SPECS LISTED ARE: LINE MARKING AND INSPECTION(I.E. MAG., SONIC,ETC.)

WE SUGGEST CONSULTING AN EXPERT ABOUT RELATED INSPECTION, PRIOR TO ALTERING THE MATERIAL FROM THE AS SHIPPED/RECEIVED
CONDITION. "DEFECT FREE" MATERIAL CAN NOT BE GUARANTEED WITHOUT PRIOR INSPECTION APPROPRIATE TO APPLICATION.

NO WELD REPAIR HAS BEEN PERFORMED AND THIS MATERIAL IS FREE FROM MERCURY AND RADIUM
CONTAMINATION AT TIME OF SHIPMENT

The willful recording of false, fictitious or fraudulent statements on this document may result as a felony under federal statutes.
*WHEN APPLICABLE

- TO THE BEST OF OUR KNOWLEDGE MATERIAL IS CONFLICT MINERAL FREE -



Q. C. Review
Sig. *John M. Sandoval*
Date *2/7/14*

John M. Sandoval

CHIP SANDOVAL - Q.C. MANAGER

Lot# 1410845

7/16 R12

13M215

Aluminium Mill Certificate

Cert. No.: KAP628824

Customer: TUSKER INTERNATIONAL TRADING INC. FRY STEEL

Contract No.: US SW130929

Alloy Temper 2024-T4

Container No: CBHU6883403/20



Taishan City Kam Kiu Aluminium Extrusion Co. Ltd

Address: Daijiang County, Taishan, Guang Dong, China

Tel: (86) 7505438596 Fax: (86) 7505438173

2024-T4

Standards: QQA 225/6 REV E; AMS QQA 225/6 REV A; ASTM B 211 2012; AMS 4120 REV R

Shipment Date: Jul 29 2013

PO No: 47540 1K

Invoice No: MJ-31492

Product Code	Die No	Specification	Heat No (Batch No.)	2024 Chemical Composition (%)										Tensile Strength N/mm ²	Yield Strength ksi	Elongation %					
				Cast No.	Si	Mg	Fe	Cu	Mn	Zn	Cr	Ti	Pb	Bi	Zr	Al					
84000	JET0361-S	DRAWN ROD	CFR 5/16	13M215	0.100	1.486	0.292	4.453	0.765	0.018	0.024	0.013	0.005	—	—	Rem.	557	81.0	523	76.0	11.8
84040	JET0362-S	DRAWN ROD	CFR 7/16	13M215	0.100	1.486	0.292	4.453	0.765	0.018	0.024	0.013	0.006	—	—	Rem.	481	70.0	423	81.0	10.8

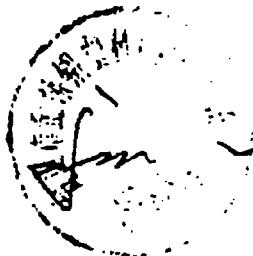
Remark:

Kam Kiu Aluminium Group hereby certifies that metal shipped under the above mentioned PO No, Contract No, and Container No has been inspected and tested, and found in conformance with the applicable specifications forming a part of the description set forth in Kam Kiu's Sales Contract. This Mill Test Certificate complies to 3.1 EN 10204.

Made By:

Waley

Checked By:



Q. C. Review
Sig: *Naomi*
Date: 7/7/14

Lot# 1410845

FRY STEEL CO. CERTIFIES THAT THIS IS
A TRUE COPY OF THE ORIGINAL MILL TEST
REPORT NOW ON FILE
RECEIVED AND INSPECTED

AUG 23 2013

BY *Chandresh*
SHP SANBOVAL - Q.C. MANAGER

Level 18, The Gardens North Tower, Mid Valley City, Lingkaran Syed Putra, 59200 Kuala Lumpur, Malaysia
E-mail: info@kamkiu.com Web Page: www.kamkiu.com

CFR 5/16

CFR 7/16

Gibbs Certificate of Analysis

Gibbs Wire & Steel Company, Inc. 3751 Olive Road, South Bend, Indiana 46628

AVIBANK MFG INC.
11500 SHERMAN WAY
NO. HOLLYWOOD CA 91605 USA

Date Shipped: 10/11/2013

Cust Order #: 749508

Amount Shipped: 27.00

Description: 0.0180" P/M.0004 ✓
17-7 PH COND. C GIBBSCOTE STAINLESS STEEL

Heat Number: 61118

Mill Coil ID:

Gibbs Coil ID:

Gibbs Number: 26806

To Certify that the material shipped against your above order number is in accordance with

Specification: ASTM A313-10 AMS 5678F ✓ TYPE 631

C: 0.0790 ✓	Mn: 0.8900 ✓	P: 0.0230 ✓	Sul: 0.0010 ✓
Si: 0.3400 ✓	Cr: 16.4500 ✓	Ni: 7.6800 ✓	Mo: 0.2400 ✓
Co:	Cu: 0.2100	N2:	Fe:
Ti:	Al: 0.9400 ✓	Be:	W:
Zn:	Sn:	Pb:	Cb:
Ta:	V:		

✓ PRE-HEAT

	MIN	MAX
Tensile Strength:	304,000	304,000

✓ POST-HEAT

	MIN	MAX
	352,000	355,000

CERT REVIEW

MAIN LOT # 1448887

COMPONENT LOT # KB30598

NAME SPRING

CLERK: GV NC DS

Alison Fink

MATERIAL FREE FROM MERCURY CONTAMINATION
COILING & WRAP TEST GOOD
DFARS COMPLIANT

Gibbs Wire & Steel Company, Inc.
Certification Clerk

Alison Fink

Q. C. Review,
Sig: *Naomi*
Date: *10/25/13*

LOT#1384834

GWS #: 649612

Tel: (574)234-6071; Fax: (574)237-0712



Anodizing Industries

Certification

Los Angeles, CA 90032
323-227-0949
Fax#: 323-227-0535
5160 Alhambra Ave

Prepared Date	Work Order #
2/27/2014	7834

Bill To	Ship To
AVIBANK MFG 11500 SHERMAN WAY NORTH HOLLYWOOD, CA 91605	AVIBANK MFG 11500 SHERMAN WAY NORTH HOLLYWOOD, CA 91605

P.O. Number	Date Received	Ship Date	Ship Via
757258	2/27/2014	2/27/2014	

QUANTITY	PART #	PART NAME	CERTIFIED PROCESS
4,110	5-3AB	HANDLE BUTTON TYPE R...	ANODIZE PER MIL-A-8625 TYPE II CLASS 2 BLACK MATL 2024T4

CERT REVIEW

MAIN LOT # 1448887

COMPONENT LOT # KB30671

NAME HANDLE, BUTTON TYPE

CLERK: GV NC DS

Q. C. Review
Sig. John
Date 2/27/14

Lot# 1421148

QA Inspected By M Date 2/27/14 NDT Level II Date _____

Anodizing Industries must be notified of any discrepancies within 3 days of receipt. Any liabilities for discrepancies or damages to parts are subject to negotiation and not to exceed 3 times the cost of services provided.

Certificate of Conformance

Sunshine Metals

2051 RAYMER AVE SUITE B FULLERTON, CA 92833

United States of America

Tel: 714-441-8120

Fax: 714-773-9901

Sales Order # PO #
SO0050527 750045

Sold To:

AVIBANK MFG INC
P O BOX 9909
NORTH HOLLYWOOD, CA 91609-1909
United States of America

Ship To:

AVIBANK MFG INC
11500 SHERMAN WAY
NORTH HOLLYWOOD, CA 91609-1909
United States of America

Item Description	Specifications	Quantity	Material	Country of Origin	Part Number
2024 .812 T351 CF ROD 144.0 in	AMS QQA 225/6 KAISER MATERIAL CERTIFY T4 TEMPER REF LINE # 1 1140 FT TOTAL \$ 4.60 LB	95	Kaiser Tennalum	United States of America	10045392

We hereby certify that the material covered by this certification has been tested in accordance with the above specifications and has been found to meet the applicable requirements. Supporting data for processing, testing and inspection is on file at this facility and is available for examination.

ALL PRODUCTS SOLD BY SUNSHINE METALS ARE SUBJECT TO B.I.S. EXPORT ADMINISTRATION REGULATIONS.
SPECIFICALLY, 2000/7000 SERIES ALUMINUM BAR WITH A DIAMETER OF 2.955 INCHES OR GREATER MAY REQUIRE AN EXPORT LICENSE

Any Known export requires an End Use Statement.

These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to U.S. law is prohibited.

ALL ITEMS SUBJECT TO PRIOR SALE
STANDARD SHIP TOLERANCE +/- 10%
Price in Effect applicable unless otherwise noted

Reference notes to Supplier Quality Assurance Requirements on purchase orders not accepted. All quality requirements must be fully defined on purchase order.

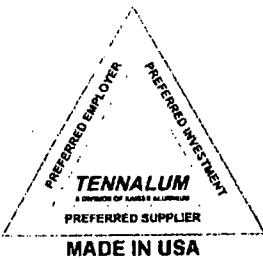


KAISER

ALUMINUM

FABRICATED PRODUCTS

Tennalum
309 Industrial Drive
Jackson, TN 38301
731-423-2811



CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

CUSTOMER PO NUMBER:		CUSTOMER PART NUMBER:		PRODUCT DESCRIPTION:			
PO0016390WC-1				Cold Finished Round			
KAISER ORDER NUMBER:	LINE ITEM:	SHIP DATE:		ALLOY:	TEMPER:		
692591	1	11/15/2013		2024 ✓	T351		
WEIGHT SHIPPED:	QUANTITY:	B/L NUMBER:		DIAM/DAF/THKNS:	WIDTH:	LENGTH:	
713 lbs.	95 pcs.	36156		0.8125 in.	0.000 in.	144.0 in.	
SHIP TO:	SOLD TO:						
Sunshine Metals 2051 Raymer Avenue Suite B Fullerton, CA 92833 USA	Sunshine Metals 2051 Raymer Avenue Suite B Fullerton, CA 92833 USA						

Test Code: 1000 AC

Actual Physical Properties

Lot Number	LONG.	LONG.	LONG.
	UTS	YTS	ELONG.
	ksi	ksi	%
10045392	69.4	53.3	21.0

Chemical Composition, WT. % (Aluminum Remainder)

Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	OTHERS	OTHERS	Lot
								EACH	TOTAL	
Actual	0.06 ✓	0.17 ✓	4.5 ✓	0.73 ✓	1.3 ✓	0.01 ✓	0.17 ✓	0.02 ✓		10045392
Max	0.50	0.50	4.9	0.9	1.8	0.10	0.25	0.15	0.05	0.15
Min			3.8	0.30	1.2					

Specifications

Standard: ISO 9001, ASTMB211-12, AMS4120R, AMS-QQ-A-225/6A ✓

Miscellaneous Notes

Made in USA ✓



This material was melted and manufactured in the USA. Mercury is not a normal contaminant in aluminum alloys. Neither mercury nor any of its compounds were utilized by Kaiser Aluminum in the manufacture of this material. AS9100C:2009 The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony under federal law.

This material meets the requirements of T4 temper and of QQ-A-225/6E Amendment 1 (CANCELLED). This material is RoHS 2 compliant.

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC ("Kaiser") hereby certifies that the metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms and conditions of sale. Test reports are on file, subject to examination.

John Rennekamp, Quality Manager

John Rennekamp

Plant Serial: 195853

Kaiser Order Number: 692591

Line Item: 1